

WHAT IS CLAIMED AS NEW AND DESIRED TO BE SECURED BY LETTERS PATENT
OF THE UNITED STATES IS:

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1. An electrophotographic photoreceptor comprising an electroconductive substrate, and a photosensitive layer on the electroconductive substrate, wherein the photosensitive layer comprises at least two charge generation materials which have spectral sensitivity in differing wavelength regions, and wherein the photosensitive layer further comprises an organic sulfur-containing compound.

10 2. The electrophotographic photoreceptor according to Claim 1, wherein the charge generation materials comprise a phthalocyanine pigment and an asymmetric bisazo pigment having the following formula (I):

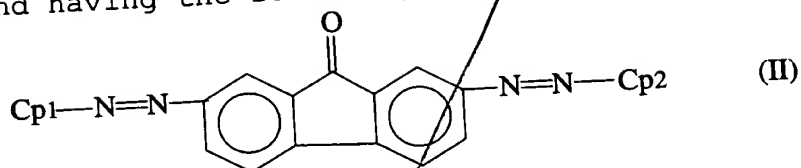


wherein A represents a divalent group having a carbon atom which connects the nitrogen atoms of the adjacent azo groups; and Cp₁ and Cp₂ each, independently, represent a residual group of a coupler, wherein Cp₁ is different from Cp₂.

20 3. The electrophotographic photoreceptor according to Claim 2, wherein the phthalocyanine pigment and the asymmetric bisazo pigment are present in the photosensitive layer in a ratio of 1:5 to 5:1 by weight.

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4. The electrophotographic photoreceptor according to Claim 2, wherein the asymmetric bisazo pigment comprises a

compound having the following formula (II):



wherein Cp₁ and Cp₂ each, independently, represent a residual group of a coupler, wherein Cp₁ is different from Cp₂.

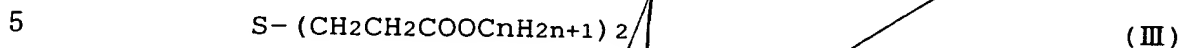
5. The electrophotographic photoreceptor according to Claim 2, wherein the phthalocyanine pigment comprises at least one of a τ -form metal-free phthalocyanine pigment or an X-form metal-free phthalocyanine pigment.

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6. The electrophotographic photoreceptor according to Claim 5, wherein the phthalocyanine pigment comprises a τ -form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed at Bragg 2θ angle of 7.6°, 9.2°, 16.8°, 17.4°, 20.4°, 20.9°, 21.7° and 27.6° when a specific X-ray of Cu-K α having a wavelength of 1.541 Å irradiates the pigment.

7. The electrophotographic photoreceptor according to Claim 5, wherein the phthalocyanine pigment comprises an X-form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed at Bragg 2θ angle of 7.5°, 9.1°, 16.7°, 17.3°, 22.3° and 28.8° when a specific X-ray of Cu-K α having a wavelength of 1.541 Å irradiates the pigment.

8. The electrophotographic photoreceptor according to Claim 1, wherein the organic sulfur-containing compound comprises a compound having the following formula (III):



wherein n is an integer of from 8 to 25.

9. The electrophotographic photoreceptor according to Claim 1, wherein the photosensitive layer further comprises a charge generation layer and a charge transport layer formed on the charge generation layer and including a charge transport material, wherein the charge generation layer comprises the charge generation materials and the charge transport layer comprises the organic sulfur-containing compound.

10. An electrophotographic image forming apparatus comprising:

an electrophotographic photoreceptor;

a charging device which charges the photoreceptor;

a light irradiation device which irradiates the charged photoreceptor to form an electrostatic latent image on the photoreceptor;

a developing device which reversely develops the electrostatic latent image with a developer including a toner, to form a toner image on the photoreceptor;

an image transfer device which transfers the toner image to a receiving material; and

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a cleaning device which cleans the photoreceptor, wherein the electrophotographic photoreceptor comprises an electroconductive substrate, and a photosensitive layer on the electroconductive substrate, wherein the photosensitive layer comprises at least two charge generation materials which have spectral sensitivity in differing wavelength regions, and wherein the photosensitive layer further comprises an organic sulfur-containing compound.

10 11. The electrophotographic image forming apparatus according to Claim 10, wherein the charging device charges the photoreceptor while contacting the photoreceptor.

15 12. The electrophotographic image forming apparatus according to Claim 10, wherein the charge generation materials comprise a phthalocyanine pigment and an asymmetric bisazo pigment having the following formula (I):

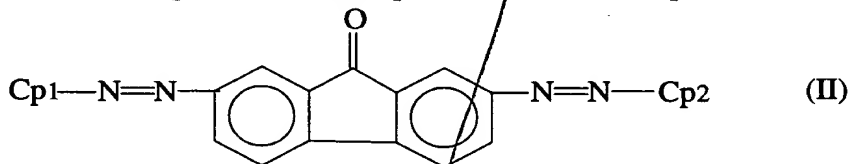


20 wherein A represents a divalent group having a carbon atom which connects the nitrogen atoms of the adjacent azo groups; and Cp₁ and Cp₂ each, independently, represent a residual group of a coupler, wherein Cp₁ is different from Cp₂.

25 13. The electrophotographic image forming apparatus according to Claim 12, wherein the phthalocyanine pigment and the asymmetric bisazo pigment are present in the photosensitive layer in a ratio of 1:5 to 5:1 by weight.

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14. The electrophotographic image forming apparatus according to Claim 12, wherein the asymmetric bisazo pigment comprises a compound having the following formula (II):



wherein Cp1 and Cp2 each, independently, represent a residual group of a coupler, wherein Cp1 is different from Cp2.

15. The electrophotographic image forming apparatus according to Claim 12, wherein the phthalocyanine pigment comprises at least one of a τ -form metal-free phthalocyanine pigment or an X-form metal-free phthalocyanine pigment.

16. The electrophotographic image forming apparatus according to Claim 15, wherein the phthalocyanine pigment comprises a τ -form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed at Bragg 2θ angle of 7.6° , 9.2° , 16.8° , 17.4° , 20.4° , 20.9° , 21.7° and 27.6° when a specific X-ray of Cu-K α having a wavelength of 1.541 \AA irradiates the pigment.

17. The electrophotographic image forming apparatus according to Claim 15, wherein the phthalocyanine pigment comprises an X-form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed

at Bragg 2θ angle of 7.5° , 9.1° , 16.7° , 17.3° , 22.3° and 28.8° when a specific X-ray of Cu-K α having a wavelength of 1.541 Å irradiates the pigment.

- 5 18. The electrophotographic image forming apparatus according to Claim 10, wherein the organic sulfur-containing compound comprises a compound having the following formula (III):



wherein n is an integer of from 8 to 25.

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19. The electrophotographic image forming apparatus according to Claim 10, wherein the photosensitive layer further comprises a charge generation layer and a charge transport layer formed on the charge generation layer and including a charge
15 transport material, wherein the charge generation layer comprises the charge generation materials and the charge transport layer comprises the organic sulfur-containing compound.

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20. An electrophotographic process cartridge comprising:
a photoreceptor; and
at least one device selected from the groups consisting

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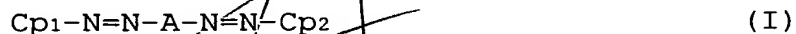
- a charging device which charges the photoreceptor;
a light irradiation device which irradiates the charged
photoreceptor to form an electrostatic latent image on the
photoreceptor;

a developing device which reversely develops the electrostatic latent image with a developer including a toner to form a toner image on the photoreceptor;

an image transfer device which transfers the toner image
5 to a receiving material; and

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a cleaning device which cleans the photoreceptor,
wherein the photoreceptor comprises an electroconductive substrate, and a photosensitive layer on the electroconductive substrate, wherein the photosensitive layer comprises at least
10 two charge generation materials which have spectral sensitivity in differing wavelength regions, and wherein the photosensitive layer further comprises an organic sulfur-containing compound.

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21. The electrophotographic process cartridge according
15 to Claim 20, wherein the charge generation materials comprise a phthalocyanine pigment and an asymmetric bisazo pigment having the following formula (I):

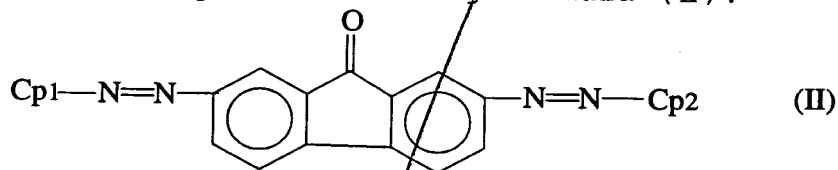


wherein A represents a divalent group having a carbon atom which
20 connects the nitrogen atoms of the adjacent azo groups; and Cp₁ and Cp₂ each, independently, represent a residual group of a coupler, wherein Cp₁ is different from Cp₂.

22. The electrophotographic process cartridge according
25 to Claim 21, wherein the phthalocyanine pigment and the asymmetric bisazo pigment are present in the photosensitive layer in a ratio of 1:5 to 5:1 by weight.

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23. The electrophotographic process cartridge according to Claim 21, wherein the asymmetric bisazo pigment comprises a compound having the following formula (II):



wherein Cp1 and Cp2 each, independently, represent a residual group of a coupler, wherein Cp1 is different from Cp2.

24. The electrophotographic process cartridge according to Claim 21, wherein the phthalocyanine pigment comprises at least one of a τ -form metal-free phthalocyanine pigment or an X-form metal-free phthalocyanine pigment.

25. The electrophotographic process cartridge according to Claim 24, wherein the phthalocyanine pigment comprises a τ -form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed at Bragg 2θ angle of 7.6° , 9.2° , 16.8° , 17.4° , 20.4° , 20.9° , 21.7° and 27.6° when a specific X-ray of Cu-K α having a wavelength of 1.541 Å irradiates the pigment.

26. The electrophotographic process cartridge according to Claim 24, wherein the phthalocyanine pigment comprises an X-form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed at Bragg

2 θ angle of 7.5°, 9.1°, 16.7°, 17.3°, 22.3° and 28.8° when a specific X-ray of Cu-K α having a wavelength of 1.541 Å irradiates the pigment.

- 5 27. The electrophotographic process cartridge according to Claim 20, wherein the organic sulfur-containing compound comprises a compound having the following formula (III):



wherein n is an integer of from 8 to 25.

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28. The electrophotographic process cartridge according to Claim 20, wherein the photosensitive layer further comprises a charge generation layer and a charge transport layer formed on the charge generation layer and including a charge transport material, wherein the charge generation layer comprises the charge generation materials and the charge transport layer comprises the organic sulfur-containing compound.

- 15 29. An electrophotographic image forming method comprising the steps of:

providing an electrophotographic photoreceptor;
charging the electrophotographic photoreceptor;
irradiating the electrophotographic photoreceptor with light to form an electrostatic latent image on the
25 electrophotographic photoreceptor;

reversely developing the electrostatic latent image with a developer including a toner to form a toner image on the

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electrophotographic photoreceptor;

transferring the toner image to a receiving material; and

cleaning the electrophotographic photoreceptor,

wherein the electrophotographic photoreceptor comprises an

electroconductive substrate, and a photosensitive layer on the

electroconductive substrate, wherein the photosensitive layer

comprises at least two charge generation materials which have

spectral sensitivity in differing wavelength regions, and

wherein the photosensitive layer further comprises an organic

10 sulfur-containing compound.

30. The electrophotographic image forming method

according to Claim 29, wherein the charge generation materials

comprise a phthalocyanine pigment and an asymmetric bisazo

15 pigment having the following formula (I):



wherein A represents a divalent group having a carbon atom which connects the nitrogen atoms of the adjacent azo groups; and Cp₁

and Cp₂ each, independently, represent a residual group of a

20 coupler, wherein Cp₁ is different from Cp₂.

31. The electrophotographic image forming method

according to Claim 30, wherein the phthalocyanine pigment and

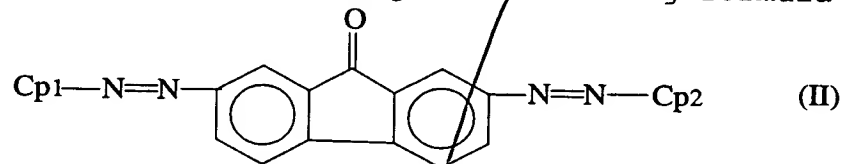
the asymmetric bisazo pigment are present in the photosensitive

25 layer in a ratio of 1:5 to 5:1 by weight.

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32. The electrophotographic image forming method

according to Claim 30, wherein the asymmetric bisazo pigment comprises a compound having the following formula (II):



wherein Cp1 and Cp2 each, independently, represent a residual group of a coupler, wherein Cp1 is different from Cp2.

33. The electrophotographic image forming method according to Claim 30, wherein the phthalocyanine pigment comprises at least one of a τ -form metal-free phthalocyanine pigment or an X-form metal-free phthalocyanine pigment.

34. The electrophotographic image forming method according to Claim 33, wherein the phthalocyanine pigment comprises a τ -form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed at Bragg 2θ angle of 7.6° , 9.2° , 16.8° , 17.4° , 20.4° , 20.9° , 21.7° and 27.6° when a specific X-ray of Cu-K α having a wavelength of 1.541 \AA irradiates the pigment.

35. The electrophotographic image forming method according to Claim 33, wherein the phthalocyanine pigment comprises an X-form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed at Bragg 2θ angle of 7.5° , 9.1° , 16.7° , 17.3° , 22.3° and 28.8° when a specific X-ray of Cu-K α having a wavelength of 1.541 \AA

irradiates the pigment.

36. The electrophotographic image forming method
according to Claim 29, wherein the organic sulfur-containing
5 compound comprises a compound having the following formula (III):



wherein n is an integer of from 8 to 25.

37. The electrophotographic image forming method
10 according to Claim 29, wherein the photosensitive layer further
comprises a charge generation layer and a charge transport layer
formed on the charge generation layer and including a charge
transport material, wherein the charge generation layer
comprises the charge generation materials and the charge
15 transport layer comprises the organic sulfur-containing
compound.

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